

**An Archaeological Watching Brief at  
Leeds Wastewater Treatment Works,  
Penfold Hill, Leeds, Kent**

**NGR 582303 153574**

**ASE Project No. 4694  
Site Code: LWT 11**

**ASE Report No. 2011176  
OASIS id: archaeol6-105734**

**Prepared by  
Kathryn Grant BA MSc AIFA**

**July 2011**

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## **Abstract**

*Archaeology South-East was commissioned by 4Delivery Limited (4D) on behalf of Southern Water to undertake an archaeological watching brief between 20th and 27<sup>th</sup> June 2011, during development groundwork at the site of Leeds Wastewater Treatment Works, Penfold Hill, Leeds, Kent (NGR 582303 153574).*

*No archaeological deposits, features, artefacts or ecofacts were encountered during the monitored groundwork. The recent origin of the overburden observed at the site and the absence of a surviving subsoil horizon suggests that recent truncation and levelling activity has taken place on the site.*

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## **1.0 INTRODUCTION**

### **1.1 Site Background**

- 1.1.1 Archaeology South-East (ASE), a division of UCL, Centre for Applied Archaeology (CAA), was commissioned by 4 Delivery Limited (4D), on behalf of Southern Water, to undertake an archaeological watching brief during development groundwork at the site of Leeds Wastewater Treatment Works, Penfold Hill, Leeds, Kent (NGR 582303 153574; Figure 1) hereafter referred to as 'the site'.

### **1.2 Geology and Topography**

- 1.2.1 The site is located between the village of Leeds and the A20, around 1.3km west of Leeds Castle. A tributary stream of the River Len fringes the eastern side of the site but it is otherwise bounded on all sides by open fields.
- 1.2.2 According to data from the British Geological Survey (BGS 2011), the site lies on bedrock geology of imbedded sandstone and limestone of the Hythe Formation; although Atherfield Clay has been recorded just to the east, no superficial geology has been noted within the bounds of the site itself. Given the proximity of the stream on the eastern side of the site some alluvium may also be encountered.

### **1.3 Planning Background**

- 1.3.1 As part of the statutory consultation process, 4D were advised by Adam Single, County Archaeologist, Heritage Conservation Group at Kent County Council (HCGKCC), that an archaeological watching brief should be maintained during the installation of a new ferric dosing kiosk and throughout other intrusive groundwork/developments at the site.
- 1.3.2 A *Specification* for the archaeological watching brief was prepared by the Heritage Conservation Group (KCC 2009). This document was followed throughout the course of the watching brief.

### **1.4 Aims and Objectives**

- 1.4.1 The general aim of the archaeological watching brief was to monitor excavations in order to ensure that any remains of archaeological interest were recorded and interpreted to appropriate standards.
- 1.4.2 The objective of the archaeological watching brief as outlined specification (KCC 2009) was to contribute to knowledge of Leeds through the recording of any archaeological remains exposed as a result of excavations in connection with the groundwork. It stated that particular attention should be paid to the character, height below ground level, condition, date and significance of the deposits.

### **1.5 Scope of the Report**

- 1.5.1 This report details the findings of the watching brief which was undertaken by Kathryn Grant (Archaeologist) between the 20<sup>th</sup> and 27<sup>th</sup> June 2011. The project was managed by Andy Leonard (Fieldwork) and Jim Stevenson (Post-excavation).

## 2.0 ARCHAEOLOGICAL BACKGROUND

### 2.1 Introduction

2.1.1 Due to the limited nature of this phase of works, a formal Historic Environment Record (HER) search has not been undertaken. The following archaeological background information has been obtained from a Desk-Based Assessment (DBA) which was carried out for a site directly south of the sewage works (ASE 2009)

2.1.2 As part of the background research for the DBA, the Kent Historic Environment Record (HER) held by the Heritage Conservation Group at County Hall, Maidstone was consulted. The sites, which were identified on this and in an Archaeology Data Service (ADS) search (<http://archaeologydataservice.ac.uk>), are tabulated below (Table 1) and are plotted on Figure 1.

Site No	HER no	NGR (TQ)	Description	Period	Type
1	MKE2955 NMR_NATINV-418161	83 53	Flint Scraper	Later Prehistoric?	Find spot
2	MKE2959 NMR_NATINV-418173	82485365	Round Barrow/Tumulus	Bronze Age	Monument
3	MKE2957	82435383	Pit	Iron Age	Monument
4	NMR_NATINV-418181	82425391	Possible Roman Villa?	Roman	Settlement?
5	NMR_NATINV-418138	82715388	2 Inhumations including a spearhead and a 'shoe-shaped stud'	Anglo-Saxon	Find spot
6	EHNMR-1329649	8252	Leeds Castle	Medieval	Monument
7	MKE2979 NMR_NATINV-418223	822 531	Bronze Horse Pendant	Medieval	Find spot
8	MKE2944 NMR_NATINV-418118	82345299	Leeds Priory/ Abbey of St Mary and St Nicholas	Medieval	Monument
9	MKE2984 NMR_NATINV-418234	82225291	Dovecote	Post-Medieval	Monument

Table 1: List of sites and monuments near to the site (plotted on Figure 1)

### 2.2 Summary of Archaeological Potential

2.2.1 A small scatter of archaeological sites and find-spots are known in the area of Leeds. The most relevant of these to the current site are a Bronze Age tumulus located 100m to the east and an Iron Age and Romano-British site just to the north, including a Ragstone building, which was investigated in the 1960's (KCC 2009).

### 2.3 Recent disturbance and truncation

2.3.1 The site is an existing sewage works and as such has undergone several stages of

groundwork in the past. Concrete access roads and existing buildings associated with the sewage works may have previously caused truncation to archaeological deposits.

### **3.0 ARCHAEOLOGICAL METHODOLOGY**

#### **3.1 Fieldwork Methodology**

- 3.1.1 The archaeological watching brief was carried out in accordance with the Specification (KCC 2009) and complies with the Standards and Guidance of the Institute for Archaeologists, (IfA 2008). A *Method Statement* for the fieldwork to be carried out was produced by ASE (2011) prior to any work on site.
- 3.1.2 Machine excavation was undertaken by a 360° mechanical excavator fitted with a flat-bladed bucket to minimise damage to deposits.
- 3.1.3 During the monitored excavations, all revealed deposits were examined for archaeological features and artefacts. The removed spoil was scanned for any stray, unstratified artefacts. The uncovered deposits were recorded using pro-forma context record sheets.
- 3.1.4 Monitored areas were marked on existing site plans and were then tied into the Ordnance Survey 1:1250 scale map of the area.
- 3.1.5 A day-to-day digital photographic record was maintained throughout the watching brief. These photographs form part of the site archive.
- 3.1.6 Ordnance levels were obtained on site through existing plans and via the sub-contracting engineer.

#### **3.2 Modifications to methodology set out in the Specification**

- 3.2.1 The scope of works was considerably reduced from that anticipated in the original Specification (KCC 2009) because there was no requirement for new access routes and compound areas. The monitored groundwork was therefore limited to the reduced-dig excavations for a new balance chamber and for a new ferric dosing kiosk.
- 3.2.2 Due to the level of disturbance from existing services and made ground (Fig 2.3), it was agreed with Adam Single of KCC, that the excavation of a service trench along the western perimeter of the site and the excavation of a new recirculation pumping station would not require monitoring (Fig 2).

#### **3.3 The Archive**

- 3.3.1 The archive has been offered to Maidstone museum; who have declined to accept it owing to a lack of space. The site archive will be held at the Archaeology South-East offices in Portslade, East Sussex until a suitable long-term storage solution can be organised. The contents of the site archive are summarised below in Table 2.

Number of Contexts	3 contexts
Number of files/paper record	1 file
Plan and sections sheets	None
Bulk Finds	None
Bulk Samples	None
Photographs	20 digital images

Table 2: Quantification of the site archive



## 4.0 RESULTS

### 4.1 Overview

- 4.1.1 The locations of the two monitored areas for a new balance chamber and for a ferric dosing kiosk are shown on Figure 2. This groundwork involved excavations at depths of between 0.6m (balance tank) and 1m (ferric dosing centre). Several existing services were revealed in the area of the balance tank (Figure 2.3).
- 4.1.2 A total of three contexts were recorded during the groundwork at the site. These contexts have been tabulated (Table 3) and are summarised below. No archaeological remains were revealed and no artefactual or environmental material was recovered.

Context Number	Context Type	Context Description	Max. Thickness (mm)	Heights m AOD
001	Deposit	Made Ground	c.400+	60.61-62.30
002	Deposit	Natural Geology	-	60.21-61.85
003	Layer	Concrete	150	62.40

Table 3: List of recorded contexts

### 4.2 Context Summary

- 4.2.1 Natural geology [002], comprising orange sandy clay with large sandstone inclusions was encountered c.400-550mm below ground level at approximately 60.21m AOD in the southwest of the site (balance tank) rising to 61.85m AOD in the northwest (ferric dosing kiosk). This was overlain directly by made ground deposit [001] with no evidence for any surviving subsoil layer. Made ground was sealed by concrete [003] in the north of the site where the new ferric dosing kiosk was located (Figure 2.4).

## **5.0 DISCUSSION AND CONCLUSIONS**

- 5.1** No archaeological features, deposits, artefacts or ecofacts were recorded in either of the monitored watching brief areas.
- 5.2** A simple stratigraphic sequence comprising, natural geology and made ground was encountered in both areas, overlain by concrete in the area of the ferric dosing kiosk. The natural geology was recorded c.400-550mm below ground level at approximately 60.21m AOD in the south west of the site (balance tank) rising to 61.85m AOD in the northwest (ferric dosing kiosk).
- 5.3** The character and depth of the overburden deposits found within both of the monitored areas suggests that there has been substantial landscaping on the site, with the removal/redistribution or any pre-existing subsoil or topsoil, and subsequent importation of material to level the site in the recent past. This importation/redistribution of material has led to a considerable depth of overburden above the surface of the natural geology. As no surviving subsoil was encountered it is likely that some truncation of the natural horizon has also taken place.
- 5.4** The archaeological watching brief demonstrated a very low potential for archaeological remains to have survived on the site. This is largely due to the significant level of disturbance at the site as a result of past groundwork associated with the initial development of the sewage works. Based on the observations of the watching brief, it is unlikely that archaeological remains will have survived previous groundwork on the site. In light of this and given the negative results of this watching brief it is unlikely that any future intrusive work at the site would impact the archaeological resource.

## **BIBLIOGRAPHY**

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KCC 2009. *Specification for an archaeological watching brief at Leeds Wastewater Treatment Works, Penfold Hill, Leeds, Kent*. Heritage Conservation Group at Kent County Council. Unpublished document

IFA, 2008, The Institute of Field Archaeologists' *Standards and Guidance for an archaeological watching brief*, published online at [www.archaeologists.net](http://www.archaeologists.net). Accessed 04-08-11

## **INTERNET SOURCES**

Web Source 1: <http://archaeologydataservice.ac.uk/> accessed 19/07/2011

## **ACKNOWLEDGEMENTS**

The co-operation and assistance of Adam Single (KCC), Alex Johnston and Ken Williams (4D) is gratefully acknowledged.

### SMR Summary Form

Site Code	LWT 11					
Identification Name and Address	Leeds WTW, Penfold Hill					
County, District and/or Borough	Leeds, Kent					
OS Grid Refs.	NGR 582303 153574					
Geology	Hythe Beds, with Atherfield Clay in the east					
Arch. South-East Project Number	4694					
Type of Fieldwork	Eval.	Excav.	<b>Watching Brief</b>	Standing Structure	Survey	Other
Type of Site	Green Field	Shallow Urban	Deep Urban	<b>Other Existing Sewage Works</b>		
Dates of Fieldwork	Eval.	Excav.	<b>WB. 20-06-11 – 27-06-11</b>	Other		
Sponsor/Client	4D/Southern Water					
Project Manager	Andy Leonard					
Project Supervisor	Kathy Grant					
Period Summary	Palaeo. None	Meso. None	Neo. None	BA None	IA None	RB None
	AS None	MED None	PM None	Other <b>MODERN DISTURBANCE</b>		
<p>100 Word Summary.</p> <p>Archaeology South-East was commissioned by 4Delivery Limited (4D) on behalf of Southern Water to undertake an archaeological watching brief between 20th and 27<sup>th</sup> June 2011, during development groundwork at the site of Leeds Wastewater Treatment Works, Penfold Hill, Leeds, Kent (NGR 582303 153574).</p> <p>No archaeological deposits, features, artefacts or ecofacts were encountered during the monitored groundwork. The recent origin of the overburden observed at the site and the absence of a surviving subsoil horizon suggests that recent truncation and levelling activity has taken place on the site.</p>						



## OASIS Form

**OASIS ID: archaeol6-105734**

### Project details

Project name	Leeds Wastewater treatment Works, Penfold Hill, Leeds, Kent
Short description of the project	<p>Archaeology South-East was commissioned by 4Delivery Limited (4D) on behalf of Southern Water to undertake an archaeological watching brief between 20<sup>th</sup> and 27<sup>th</sup> June 2011, during development groundwork at the site of Leeds Wastewater Treatment Works, Penfold Hill, Leeds, Kent (NGR 582303 153574).</p> <p>No archaeological deposits, features, artefacts or ecofacts were encountered during the monitored groundwork. The recent origin of the overburden observed at the site and the absence of a surviving subsoil horizon suggests that recent truncation and levelling activity has taken place on the site.</p>
Project dates	Start: 20-06-2011 End: 27-06-2011
Previous/future work	Not known / Not known
Any associated project reference codes	LWT11 - Sitecode
Type of project	Recording project
Monument type	NONE None
Significant Finds	NONE None
Investigation type	'Watching Brief'

### Project location

Country	England
Site location	KENT MAIDSTONE LEEDS Leeds Wastewater Treatment Works, Penfold Hill
Site coordinates	TQ 582303 153574 50.9153775634 0.251214023237 50 54 55 N 000 15 04 E Point
Height OD / Depth	Min: 60.21m Max: 61.85m

### Project creators

Name of Organisation	Archaeology South-East
Project director/manager	Andy Leonard/Jim Stevenson

Project supervisor Kathryn Grant

Type of sponsor/funding body 4D Ltd

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Entered by Kathryn Grant (Kathryn.Grant@ucl.ac.uk)

Entered on 25 July 2011

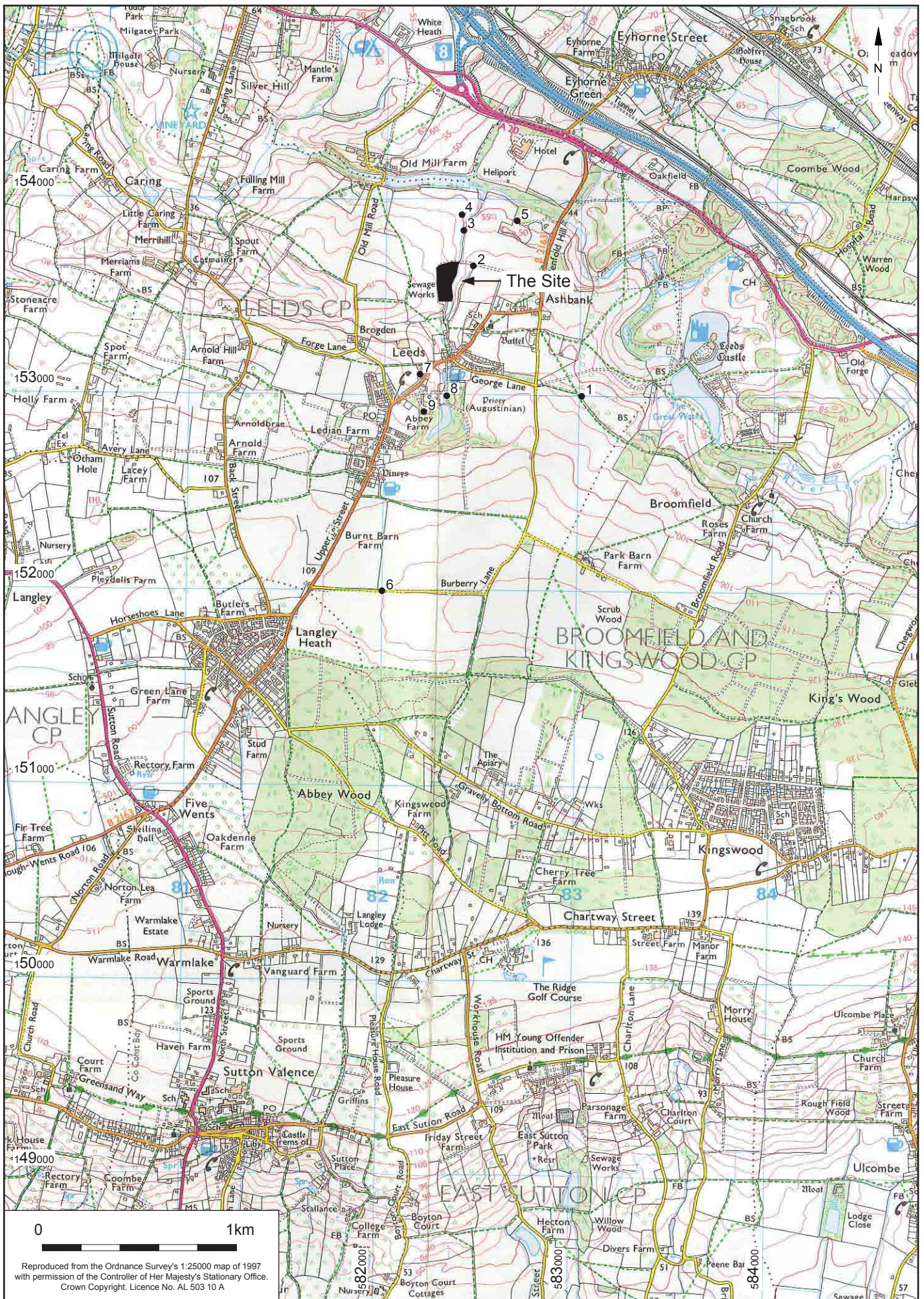
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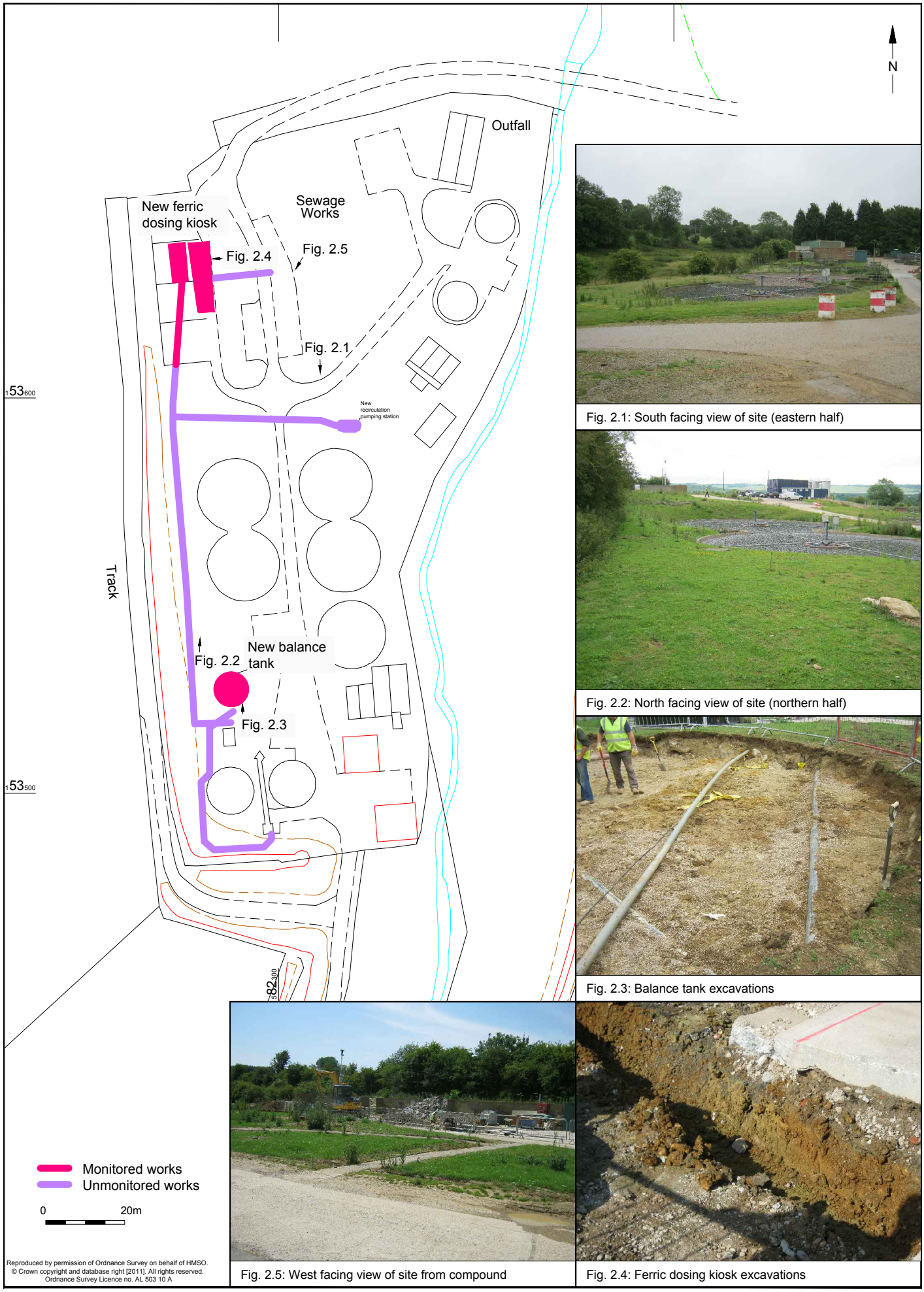
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© Archaeology South-East		Leeds Water Treatment Works		Fig. 1
Project Ref: 4694	July 2011	Site location with HER data		
Report Ref: 2011176	Drawn by: LD			





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© Archaeology South-East		Leeds Water Treatment Works	Fig. 2
Project Ref: 4694	July 2011	Plan showing monitored works	
Report Ref: 2011176	Drawn by: LD		

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